

Appln. Serial No. 09/871,240
Amendment Dated June 11, 2007
Reply to Office Action Mailed March 13, 2007

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CURRENT LISTING OF THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1 1. (Cancelled)

1 2. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a component including a seal engageable with the element.

1 3. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a component including an anchor actuatable by the element.

1 4. (Cancelled)

1 5. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task,
4 wherein the element includes a sand screen.

1 6. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a shock absorber including the element.

1 7. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a releasable connector mechanism including the element.

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1 8. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 an explosive component including the element.

1 9. (Original) The apparatus of claim 8, wherein the explosive component includes a
2 shaped charge.

1 10. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a weak point connector including the element.

1 11. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 a carrier line; and
3 a tool carried by the carrier line for deployment into the wellbore, comprising:
4 an element formed of a superplastic material to perform a predetermined
5 downhole task; and
6 a heating device to heat the element to a temperature sufficient to cause
7 the element to exhibit superplastic behavior.

1 12. – 26. (Cancelled)

1 27. (Previously Presented) The apparatus of claim 2, wherein the element is adapted
2 to translate the seal into engagement with a downhole structure.

1 28. (Previously Presented) The apparatus of claim 27, wherein the apparatus
2 comprises a packer.

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1 29. (Previously Presented) The apparatus of claim 27, wherein the apparatus
2 comprises a patch.

1 30. (Previously Presented) The apparatus of claim 27, further comprising a carrier
2 line and a tool carried by the carrier line for deployment into the well, wherein the tool comprises
3 the element formed of the superplastic material and the component including the seal, the tool
4 further comprising a heating device to heat the superplastic material to a temperature such that
5 the element exhibits superplastic behavior.

1 31. (Previously Presented) The apparatus of claim 30, further comprising a piston
2 adapted to cause translation of the element.

1 32. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task;
4 a component including a seal engageable with the element, wherein the element is
5 adapted to translate the seal into engagement with a downhole structure; and
6 a heating device to heat the superplastic material to a temperature such that the
7 element exhibits superplastic behavior,
8 wherein the heating device comprises a propellant.

1 33. (Previously Presented) The apparatus of claim 2, further comprising a conduit,
2 wherein the element comprises a plug to block fluid flow in a bore of the conduit.

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1 34. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task;
4 a component including a seal engageable with the element;
5 a conduit, wherein the element comprises a plug to block fluid flow in a bore of
6 the conduit; and
7 a port to communicate fluid pressure to deform the plug inwardly to enable
8 movement of the plug.

1 35. (Previously Presented) The apparatus of claim 3, wherein the component
2 comprises a packer including the anchor.

1 36. (Previously Presented) The apparatus of claim 35, wherein the packer further
2 comprises a seal,
3 wherein the element comprises one or more sleeves attached to the anchor and the
4 seal, the one or more sleeves adapted to translate the anchor and seal into engagement with a
5 downhole structure.

1 37. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 a carrier line; and
3 a tool carried by the carrier line for deployment into the wellbore, comprising:
4 an element formed of a superplastic material to perform a predetermined
5 downhole task,
6 wherein the element is selected from the group consisting of a casing, a
7 liner, a tubing, and a pipe; and
8 a heating device to heat the element to a temperature such that the element
9 exhibits superplastic behavior.

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1 38. (Previously Presented) The apparatus of claim 5, further comprising a heating
2 device to heat the sand screen to a temperature such that the sand screen exhibits superplastic
3 behavior.

1 39. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a heating device to heat the element to a temperature sufficient to cause the
5 element to exhibit superplastic behavior,
6 wherein the heating device comprises a propellant.

1 40. – 41. (Cancelled)

1 42. (Previously Presented) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task;
4 a junction seal assembly comprising the element; and
5 a heating device to heat the element to a temperature sufficient to cause the
6 element to exhibit superplastic behavior,
7 wherein the heating device comprises a propellant.

1 43. (Previously Presented) The apparatus of claim 42, wherein the element comprises
2 one of a tubing and pipe to be inserted into a lateral wellbore.

1 44. (Previously Presented) The apparatus of claim 2, wherein the superplastic
2 material exhibits elongation to failure in excess of 200%.

1 45. (Previously Presented) The apparatus of claim 2, wherein the superplastic
2 material has a fine equi-axed grain structure that remains stable during deformation.

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1 46. (Previously Presented) The apparatus of claim 45, wherein a grain size of the fine
2 equi-axed grain structure is in a range of 2 to 10 micrometers.

1 47. (Previously Presented) The apparatus of claim 3, wherein the superplastic
2 material exhibits elongation to failure in excess of 200%.

1 48. (Previously Presented) The apparatus of claim 3, wherein the superplastic
2 material has a fine equi-axed grain structure that remains stable during formation.

1 49. (Previously Presented) The apparatus of claim 48, wherein a grain size of the fine
2 equi-axed grain structure is in a range of 2 to 10 micrometers.